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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,097	12/13/2001	Volker Schellenberger	GC714	2885
7590	06/09/2004		EXAMINER	
H. Thomas Anderton Jr., Esq. Genencor International, Inc. 925 Page Mill Road Palo Alto, CA 94304			SWOPE, SHERIDAN	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/022,097	Applicant(s) SCHELLENBERGER, VOLKER	
	Examiner Sheridan L. Swope	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 2-11 and 15-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 12-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0303/0303</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claims 1-29 are pending.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 and 12-14, drawn to targeted enzymes comprising one targeting site, wherein the targeting site has one variant sequence classified in class 435, subclass 183.
- II. Claims 2-4 and 9, drawn to targeted enzymes comprising multiple targeting sites, wherein the targeting sites have one variant sequence, classified in class 435, subclass 183.
- III. Claims 5 and 6, drawn to targeted enzymes comprising multiple targeting sites, wherein one targeting site has multiple variant sequences, classified in class 435, subclass 183.
- IV. Claims 7, 8, 10, and 11, drawn to targeted enzymes comprising one targeting site, wherein the targeting site has multiple variant sequences, classified in class 435, subclass 183.
- V. Claims 15, 17, and 26-29, in part, and 16, drawn to methods of treatment with a targeted enzyme wherein the targeted enzyme acts directly on the prodrug, classified in class 514, subclass 2.
- VI. Claims 15, 17, and 26-29, in part, and 18, drawn to methods of treatment with a targeted enzyme wherein the targeted enzyme does not act directly on the prodrug, classified in class 514, subclass 2.

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Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Also, product and process inventions are distinct if any of the following can be shown: (1) that the process as claimed can be used to make another and materially different product, (2) that the product claimed can be used in a materially different process of using that product, or (3) that the product claimed can be made by another and materially different process (MPEP § 806.05(h)). These inventions are different or distinct for the following reasons.

Inventions I-IV are distinct because the proteins of said invention are physically and functionally distinct chemical entities.

The methods of Inventions V and VI are distinct as they comprise different steps, utilize different products and/or produce different results.

The methods of Inventions V and VI are related to the proteins of Inventions I-IV as a product and process of using. However, the inventions are distinct because the proteins can be used for production of an antibody or in assays for the identification of agonists or antagonists of the enzyme.

This application contains claims directed to the following patentably distinct species of Inventions V and VI:

Targeted enzymes (as described on pages 36-37 of the specification):

- (A) a protease;
- (B) a carboxypeptidase;
- (C) β -lactamase

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(D) an asparaginase; and

(E) oxidase;

(F) hydrolase;

(G) lyase;

(H) lipase;

(I) cellulase;

(J) amylase ;

(K) aldolase ;

(L) phosphatase ;

(M) kinase;

(N) transferase;

(O) polymerase;

(P) nuclease;

(Q) nucleotidases;

(R) laccase; and

(S) reductase.

Diseases:

(T) a proliferative disorder

(U) an autoimmune disease

(V) an infectious disease

Drug or prodrug:

(W) Cephalosporin

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(X) A chemotherapeutic drug

If Invention V or VI is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from (A)-(S), one from (T)-(V), and from one from (W)-(X) for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claims 1-18 and 20-29 are generic for species of enzymes, Claims 1-21 and 23-29 are generic for species of diseases, and Claims 1-11 and 25-29 are generic for species of drugs.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art due to their recognized divergent subject matter, as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Tom Anderton on May 28, 2004 a provisional election was made without traverse to prosecute Invention I, Claims 1 and 12-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-11 and 15-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification-Objections

The specification is objected to for citing priority in the first paragraph to a provisional application by the Attorney Docket number, GC684-20. The citation should be corrected to the provisional application number, as cited in the Declaration.

On page 94, line 16, there is an incomplete parenthesis ie "...quantities of targeted β -lactamase BLA) molecules". Correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim not is patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

Claims 1 and 12-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 13-18, 23, and 30 of US Application 10/022,073. Although the conflicting claims are not identical, they are not patentably distinct from each other. Claim 1, 13, and 14 herein and Claims 1, 13-18 of 10/022,073 are both directed to targeted enzymes comprising one targeting site, wherein the targeting site has one variant sequence and wherein the targeted enzyme cleaves a prodrug. The claims differ in that Claim 13 herein recites the additional limitation of the targeted enzyme binding the prodrug via the substrate recognition site and Claim 14 herein recites the additional limitation that the targeted enzyme cleaves the prodrug. Claims 1, 13-18 of 10/022,073 recite the additional limitations of: (i) the variant sequence being 1-50 residues and the variation-tolerant sequence comprising a loop (Claims 1, 14-18), (ii) the variant sequence being 3-20 residues and

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the variation-tolerant sequence comprising a loop (Claims 13), (iii) the targeted enzyme is 45kDa (Claim 14), (iv) the targeted enzyme binds the target with a K_d of $\leq 5nM$, (v) the bound targeted enzyme has $\geq 1\%$ of the wild-type enzyme activity, (vi) the pretargeted enzyme is selected from proteases, carboxypeptidases, β -lactamases, asparaginases, oxidases, hydrolases, lyases, lipases, cellulases, amylases, kinases, phosphatases, transferases, aldolases and reductases (Claim 17), and (vii) the target is a protein or cell (Claim 18). Claim 12-14 herein and Claims 23 and 30 of 10/022,073 are both directed to any targeted β -lactamase comprising one targeting site, wherein the targeting site has one variant sequence and wherein the targeted β -lactamase cleaves a prodrug. The claims differ in that Claim 13 herein recites the additional limitation of the targeted β -lactamase binding the prodrug via the substrate recognition site and Claim 14 herein recites the additional limitation that the targeted β -lactamase cleaves the prodrug. Claims 23 and 30 of 10/022,073 recite the additional limitations of the variant sequence being 1-50 residues, the variation-tolerant sequence comprising a loop, and the targeted enzyme having $\geq 1\%$ of the wild-type enzyme activity.

The portion of the specification in 10/022,073 that supports the targeted enzymes recited in Claims 1, 13-18, 23, and 30 includes embodiments that would anticipate Claims 1 and 12-14 herein, e.g., targeted enzymes or targeted β -lactamase comprising one targeting site, wherein the targeting site has one variant sequence and wherein the targeted enzyme cleaves a prodrug. Claims 1 and 12-14 herein cannot be considered patentably distinct over Claims 1, 13-18, 23, and 30 of 10/022,073 when there are specifically recited embodiments that would anticipate Claims 1 and 12-14 herein. Alternatively, Claims 1 and 12-14 herein cannot be considered patentably distinct over Claims 1, 13-18, 23, and 30 of 10/022,073 when there are specifically

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disclosed embodiments in 10/022,073 that supports Claims 1, 13-18, 23, and 30 of that patent and falls within the scope of Claims 1 and 12-14 herein, because it would have been obvious to a skilled artisan to modify the targeted enzymes of Claims 1, 13-18, 23, and 30 of 10/022,073 by selecting a specifically disclosed embodiment that supports those claims, i.e., targeted enzymes or targeted β -lactamase comprising one targeting site, wherein the targeting site has one variant sequence and wherein the targeted enzyme cleaves a prodrug. One having ordinary skill in the art would have been motivated to do this, because such an embodiment, is disclosed as being a preferred embodiment within Claims 1, 13-18, 23, and 30 of the prior application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112-Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For Claims 1 and 12, the phrase “variant sequence” renders the claim indefinite, as the metes and bounds of a “variant sequence” are not clearly defined. The specification states that “The term ‘variant sequence’ refers to one or more contiguous amino acid residues derived from, but not identical to, a variation-tolerant sequence of a pre-targeted enzyme. A variant sequence is derived from a variation-tolerant sequence in that the variant sequence differs from its corresponding variation-tolerant sequence by the insertion, deletion, substitution or replacement

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of one or more amino acid residues of the variation-tolerant sequence. Thus, a variant sequence has 0% or more, but less than 100%, sequence identity to the corresponding variation-tolerant sequence, and can be shorter, the same length, or longer than the variation-tolerant sequence.”

(pg 28, lines 10-17). Because a variant sequence can comprise any number of changes to the parent sequence, one of skill in the art would not know the metes and bounds of a single variant sequence versus multiple variant sequences.

For example (bold indicates changes).

Native: NH₂-AA_x-GKADIAANKPVTPQTLFELGSISKTF~~FT~~GV- AA_x-COOH

Variant: NH₂-AA_x-**GRIE**LAANKPVTPQTL**FD**VGSLSKTF~~FT~~GV- AA_x-COOH

Does said variant contain a single variant sequence, two variant sequences, or three variant sequences? Because a variant sequence can be any length and contain any number of amino acid residues inserted, deleted, substituted, or replaced, it is not possible to determine the metes and bound of a single variant sequence or to distinguish the boundaries between adjacent variant sequences. For these reasons, Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13 and 14, as dependent on Claims 1 or 12, are rejected for the same reasons. Clarification is required. For purposes of examination, it is assumed that the variant sequence can be any size.

For Claims 1 and 12, the phrase “targeting site” renders the claim indefinite. The specification states that “A targeting site comprises one or more variant sequences.” (pg 28, line 6). As described above, the phrase “variant sequence” is indefinite; therefore, the phrase “targeting site” is also indefinite. Claims 13 and 14, as dependent on Claims 1 or 12, are rejected

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for the same reasons. Clarification is required. For purposes of examination, it is assumed that the targeting site can be any size and comprise any number of amino acid changes.

Claim Rejections - 35 USC § 112-First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Enablement

In this regard, the application disclosure and claims are compared per the factors indicating in the decision re Wands 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir, 1988). These factors are considered when determining whether there is sufficient evidence to support a description that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is undue. The factors include but are not limited to: (1) the nature of the invention; (2) the breadth of the claims; (3) the predictability or unpredictability of the art; (4) the amount of direction or guidance presented; (5) the presence or absence of working examples; (6) the quantity of experimentation necessary; (7) the relative skill of those skilled in the art. Each factor is here addressed on the basis of comparison of the disclosure, the claims, and the state of the prior art in the assessment of undue experimentation.

Claims 1 and 12-14 are rejected under 35 U.S.C. 112, first paragraph. The specification, while enabling for a targeted β -lactamase comprising a targeting site for streptavidin in the β -loop (pg 89 line 23-pg 90 line 36), does not reasonably provide enablement for any targeted enzyme comprising any substrate recognition site and any targeting site comprised of any variant sequence, wherein the targeted enzyme has any enzymatic activity that converts a prodrug to a

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drug. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claim 1 is so broad as to encompass any targeted enzyme comprising any substrate recognition site and any targeting site that comprises any variant sequence, wherein the targeted enzyme has any enzymatic activity that converts a prodrug to a drug. Claim 12 is so broad as to encompass any targeted enzyme comprising any substrate recognition site that comprises KTXS and any targeting site that comprises any variant sequence, wherein the targeted enzyme is a β -lactamase. Claim 13 is so broad as to encompass the targeted enzyme of Claim 1 or 12, wherein binding of the prodrug is via the substrate recognition site. Claim 14 is so broad as to encompass the targeted enzyme of Claim 13, wherein the targeted enzyme cleaves the prodrug. The scope of each of these claims is not commensurate with the enablement provided by the disclosure with regard to the extremely large number of targeted enzymes broadly encompassed by the claim. Since the amino acid sequence of a protein determines its structural and functional properties, predictability of which changes can be tolerated in a protein's amino acid sequence and obtain the desired targeted enzyme activity requires a knowledge of and guidance with regard to which amino acids in the protein's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed knowledge of the ways in which the protein's structure relates to its function.

While recombinant and mutagenesis techniques as well as enzymatic assays are known, it is not routine in the art to screen for multiple substitutions or multiple modifications, as encompassed by the instant claims, and the positions within a protein's sequence where amino

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acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any protein and the results of such modifications are unpredictable. In addition, one skilled in the art would expect any tolerance to modification for a given protein to diminish with each further and additional modification, e.g. multiple substitutions.

The specification does not support the scope of Claim 1, which is so broad as to encompass any targeted enzyme comprising any substrate recognition site and any targeting site that comprises any variant sequence, wherein the targeted enzyme has any enzymatic activity that converts a prodrug to a drug. The specification does not support the scope of Claim 12, which is so broad as to encompass a targeted β -lactamase having a substrate recognition site that comprises KTXS and having any targeting site that comprises any variant sequence, wherein the targeted β -lactamase converts a prodrug to a drug. The specification does not support the scope of Claim 13, which is so broad as to encompass the targeted enzyme of Claim 1 or 12, wherein binding of the prodrug is via the substrate recognition site. The specification does not support the scope of Claim 14, which is so broad as to encompass the targeted enzyme of Claim 13, wherein the targeted enzyme cleaves the prodrug.

The specification does not support the broad scope of Claims 1 and 12-14 because the specification does not establish: (A) all pretargeted enzymes that can be modified to make an active targeted enzyme; (B) the general tolerance of the enzymatic activity of any pretargeted enzyme to modification as a targeted enzyme and extent of such tolerance; (C) a rational and predictable scheme for modifying any enzyme into a targeted enzyme with an expectation of retaining the desired enzymatic activity; (D) which pretargeting sites can be converted to a targeting site comprising a variant sequence; (E) all regions of any targeting site that may be

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modified without effecting the targeting activity; (F) the general tolerance of the activity of any targeting site to modification and extent of such tolerance; (G) a rational and predictable scheme for modifying any targeting site with an expectation of obtaining the desired targeted enzyme function; (H) the specification provides insufficient guidance as to which of the essentially infinite possible choices of enzymes is likely to be successful as a targeted enzyme; (I) the specification provides insufficient guidance as to which of the essentially infinite possible choices of pretargeting sites are likely to be successfully converted to a targeting site; and (J) the specification provides insufficient guidance as to which of the essentially infinite possible choices of targeting sites, comprising a variant sequence, is likely to be successful for any enzyme; and (K) the specification provides insufficient guidance as to which of the essentially infinite possible choices of modified targeting sites is likely to be successful.

Thus, applicants have not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claims broadly including a large number of targeted enzymes consisting of an enormous number of amino acid modifications of any pretargeted enzyme. The scope of the claims must bear a reasonable correlation with the scope of enablement (*In re Fisher*, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of the identity of sequences having the desired biological characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir, 1988).

Written Description

Claims 1 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

These claims are directed to a genus of targeted enzymes having any enzyme activity that converts a prodrug to a drug and having any targeting site that comprises a variant sequence. The specification teaches only a single representative species of such targeted enzyme, a β -lactamase with a targeting site for streptavidin in the β -loop (pg 89 line 23-pg 90 line 36). Said targeted enzyme can be isolated by p-aminophenylboronic acid affinity chromatography followed by streptavidin chromatography (pg 95 line 9-pg 97 line 1). The specification fails to describe any other representative species by any identifying characteristics or properties other than the functionality of being a targeted enzyme. Given this lack of description of representative species encompassed by the genus of the claims, the specification fails to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize that applicants were in possession of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheridan L. Swope whose telephone number is 571-272-0943. The examiner can normally be reached on M-F; 9:30-7 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0928. The fax phone

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numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Sheridan Lee Swope, Ph.D.

Rebecca E. Priest
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